

REMARKS

In the Office Action, the Examiner rejected claims 1-31, 41-44, 46-49, and 55-67, and allowed claims 32-40 and 50-54. Applicant canceled claim 45 in a previous communication. Applicant thanks the Examiner for the recognition of allowable subject matter in the present claims. By the present Response, Applicant amends claims 41-44 and 46-49 to further clarify the claimed subject matter. These amendments add no new matter. Further, because these amendments merely serve to clarify the claimed subject matter, these amendments alone should not necessitate a new search by the Examiner. Upon entry of the amendments, claims 1-44 and 46-67 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

As a preliminary matter, Applicant acknowledges the Examiner's citation of 37 C.F.R. § 1.56 with respect to applications 10/201,007 and 10/201,073, which were copending applications as of the date of the most recent Office Action. As the Examiner may appreciate, and is clearly recited by 37 C.F.R. § 1.56, the duty to disclose information known to be material to patentability is satisfied if the information is disclosed in an Information Disclosure Statement *or cited by the Office*. In the present case, the Examiner has already cited the above-referenced copending applications. Applicant respectfully submits that any duty Applicant may have had under 37 C.F.R. § 1.56 with respect to these copending applications has been fulfilled by the Examiner's citation of these applications. Consequently, 37 C.F.R. § 1.56 does not support the Examiner's request for correction. Certainly, Rule 56 does not require that non-related copending applications that are simply in the same general field of activity be referred to specifically in the application. Accordingly, Applicant respectfully requests withdrawal of the present objection. However, if the Examiner should believe that correction is still appropriate, Applicant invites the Examiner to clarify the correction desired and the underlying rationale for the correction.

Obviousness-Type Double Patenting

In the Office Action, the Examiner rejected claims 1-44 and 46-67 under the judicially created doctrine of obviousness-type double patenting in view of claims 1-35 of copending Application No. 10/201,073, and claims 1-37 of copending Application No. 10/201,007. Although Applicant does not necessarily agree with the Examiner's assertion, Applicant is amenable to filing a terminal disclaimer upon an indication that the instant claims are otherwise in condition for allowance. Accordingly, Applicant respectfully requests that the Examiner hold in abeyance the double-patenting rejection until the present claims are determined to be otherwise allowable.

Claim Objections

In the Office Action, the Examiner objected to claims 46-49 for depending from a canceled claim. Applicant thanks the Examiner for pointing out this clerical error and has amended the claims as set forth above. In view of these amendments, Applicant believes the Examiner's objections are moot. Accordingly, Applicant respectfully requests withdrawal of the Examiner's objections to the claims.

Rejections Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 41-44 and 46-49 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Although Applicant does not necessarily agree with the rationale provided by the Examiner for the rejection, Applicant has chosen to amend claim 41, as well as dependent claims 42-44 and 46-49, to further clarify the claimed subject matter. The Examiner's rejection of these claims under Section 112, second paragraph, is believed moot in view of these amendments. *See* Manual of Patent Examining Procedure § 2106. Accordingly, Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 112. As the Examiner indicated in the recent Office Action, the Section 112 rejection is the only outstanding

rejection of claims 41-44 and 46-49. Applicant, therefore, respectfully requests allowance of the instant claims upon removal of the present rejection.

Rejections Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1-5, 8-12, 15-31, and 58-67 under 35 U.S.C. § 102(e) as being anticipated by Mir et al. (U.S. Patent No. 6,549,871). Applicant respectfully traverses this rejection.

As a preliminary matter, Applicant notes the Examiner rejected forty claims, including five independent claims, on the sole basis of the Mir et al. reference, yet provided only a cursory rationale as to why the Examiner believed the cited reference anticipates the instant claims. Applicant believes that the present rejections are based on a fundamental mischaracterization of the Mir et al. reference that the Examiner will recognize upon reconsideration. However, Applicant respectfully submits that the dearth of rationale for the present rejection has denied Applicant a reasonable opportunity to respond to the rejection, as Applicant is forced to guess as to why the Examiner believes the reference teaches something absent from, or antithetical to, the cited reference. Applicant respectfully reminds the Examiner of his duties and obligations under 37 C.F.R. § 1.104 and MPEP § 707.07 and request that the Examiner clarify his rejection, if maintained, and specifically cite the presently recited features in a future non-final Office Action so that Applicant may have adequate opportunity to address the Examiner's particular contentions with respect to the prior art.

Legal Precedent

Applicant reminds the Examiner that anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Moreover, the prior art

reference also must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Accordingly, Applicant needs only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

Teachings of the Mir et al. Reference

The Mir et al. reference is generally directed to a method for estimating current in a permanent magnet (PM) electric machine. Col. 2, lines 49-50. Particularly, Mir et al. teach the acquisition of data pertaining to the torque produced by the electric machine, the rotational position and velocity of the electric machine, and the temperature of the electric machine. Col. 2, lines 50-57; *see also* col. 3, lines 21-65 (providing various sensors for data acquisition). Once acquired, one or more of these data points are used to calculate an estimate of the current in the electric machine. Col. 2, lines 51-61; col. 3, line 66 – col. 4, line 7. Applicant respectfully notes that torque, temperature, position, and velocity cannot be reasonably considered to be electrical data. With this in mind, the Mir et al. reference merely discloses *using non-electrical data to estimate current* (a single electrical parameter) in an electric machine. *See* col. 8, lines 15-55; Abstract.

Omitted Features of Independent Claims 1, 25, and 58

Turning now to the present claims, the Mir et al. reference clearly fails to disclose each element of independent claims 1, 25, and 58. For instance, independent claim 1 recites an electronic device operable to “establish estimated values of a *plurality* of electrical parameters of an electric motor *based on electrical input data*” (emphasis added). Claim 25 similarly recites an electronic device operable to establish estimated values of a *plurality* of electrical parameters of a motor based on *electrical input data*. Likewise, independent claim 58 recites operating an instrumentation system to “establish estimated values of a *plurality* of electrical parameters of the motor based on ... *electrical*

input data” (emphasis added). Because the Mir et al. reference fails to disclose such elements, the cited reference fails to anticipate independent claims 1, 25, and 58.

As noted above, Mir et al. disclose a technique for estimating a *single* electrical parameter (current) based on *non-electrical data* such as temperature or torque. The Mir et al. reference simply fails to disclose estimating a *plurality* of electrical parameters, as recited by the present claims. The Mir et al. reference is further deficient in that it fails to disclose using electrical input data to establish such parameters, as also recited by the instant claims. As a result, the Mir et al. reference cannot anticipate independent claims 1, 25, or 58.

Additionally, independent claim 1 recites that the electrical input data is obtained at a single load point of the motor, while claim 58 recites electrical input data obtained with three load points on the motor. Applicant respectfully notes that the Mir et al. reference is *completely silent* on whether parameters are obtained at a single load point or at multiple load points. It would thus be incongruous to suggest that the reference discloses establishing estimated values of a plurality of electrical parameters based on electrical input data obtained from either a single load point or multiple load points, as alternatively recited by claims 1 and 58.

Omitted Features of Independent Claims 15 and 61

Further, the Mir et al. reference also fails to disclose each element of independent claims 15 and 61. For instance, independent claim 15 recites an electronic device operable to “establish an estimated value of an *operating parameter* of an electric motor *based on electrical input data*” (emphasis added). Similarly, independent claim 61 recites operating an instrumentation system “to establish an estimated *operational parameter* of the inverter-driven motor *based on ... the electrical input data*” (emphasis added). Because the Mir et al. reference fails to disclose each and every element of these claims, the cited reference fails to anticipate independent claims 15 and 61.

Among its teachings, the Mir et al. reference does disclose the use of motor temperature and torque, which may be properly categorized as operational parameters, to determine the current in an electric machine. However, it should again be noted that the Mir et al. reference, at best, is directed to estimating a single *electrical* parameter (current) *based on non-electrical data* that may include the temperature of, and torque produced by, an electric machine. Conversely, the present claims are clearly directed to establishing an estimated *operational parameter* of a motor instead of an electrical parameter. Further, the present claims recite establishing the operational parameter based on *electrical* input data. As would be appreciated by one skilled in the art, the parameters of torque, position, speed, and temperature may not be properly classified as “electrical input data.” In other words, the Mir et al. reference teaches the *opposite* of the instant claims. Consequently, the Mir et al. reference cannot be fairly considered as teaching every element of the present claims.

Still further, independent claim 15 also recites that the electrical input data is obtained at three load points of the electric motor. Applicant again submits that the Mir et al. reference is *completely* silent on whether parameters are obtained at a single load point or at multiple load points. As such, the cited reference cannot be reasonably considered to disclose “electrical input data obtained at first, second, and third load points of the electric motor” as recited by independent claim 15.

Because the reference fails to teach such recitations, the Mir et al. reference fails to anticipate independent claims 1, 15, 25, 58, and 61. Consequently, the Mir et al. reference cannot support the Examiner’s rejection with respect to these claims. Further, the claims depending from these independent claims are believed equally allowable not only for their depending from an allowable base claim, but also by virtue of the subject matter recited by each dependent claim. For instance, dependent claims 2, 26, and 60 generally recite establishing, or the capability to establish, an estimated value of an operating parameter based on the estimated electrical parameters. For reasons similar to

those provided above, Applicant respectfully submits that the Mir et al. reference fails to disclose such subject matter. Due to the numerous deficiencies of the cited reference, Applicant respectfully requests withdrawal of the rejection based on the Mir et al. reference and allowance of claims 1-5, 8-12, 15-31, and 58-67.

Rejections Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 6, 7, and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over Mir et al. in view of Giuseppe (U.S. Patent No. 6,281,659). The Examiner also rejected claims 13 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Mir et al. in view of Discenzo (U.S. Patent No. 6,295,510). Applicant respectfully traverses these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Omitted Features of Independent Claim 55

Applicant respectfully notes that the Mir et al. and Giuseppe references fail to disclose each element of independent claim 55. For instance, independent claim 55 recites operating an instrumentation system “to establish estimated values of a *plurality* of electrical parameters of the motor *based on ... the electrical input data*” (emphasis added). As discussed above, the Mir et al. reference discloses neither establishing estimated values of a plurality of electrical parameters nor establishing such values based on electrical input data. Further, the Giuseppe reference fails to obviate the glaring deficiencies of the Mir et al. reference. Because the cited references, whether taken alone or in combination, fail to disclose each and every element of the instant claim, the Mir et al. and Giuseppe references cannot support a *prima facie* case of obviousness with respect to independent claim 55 or its dependent claims.

Dependent Claims 6, 7, 13, and 14

Applicant notes that each of claims 6, 7, 13, and 14 depends from independent claim 1. As discussed above, the Mir et al. reference fails to disclose each element of independent claim 1. Further, the Giuseppe and Discenzo references do nothing to obviate the deficiencies of the Mir et al. reference. As a result, dependent claims 6, 7, 13, and 14 are allowable on the basis of their dependency from an allowable independent claim, as well as for the subject matter separately recited in these dependent claims. Accordingly, Applicant respectfully requests withdrawal of the Examiner’s rejection and allowance of claims 6, 7, 13, and 14.

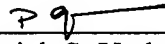
For these reasons, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 103 and allowance of claims 6, 7, 13, 14, and 55-57.

Conclusion

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: June 1, 2005



Patrick S. Yoder
Reg. No. 37,479
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

CORRESPONDENCE ADDRESS
ALLEN-BRADLEY COMPANY, LLC
Patent Department/704P Floor 8 T-29
1201 South Second Street
Milwaukee, Wisconsin 53204
Attention: Mr. Alexander Gerasimow
Phone: (414) 382-2000